

What is claimed is:

1. A method for feeding a fastening element, formed with a first end and a second end, which comprises the steps of:

transporting the fastening element from a feed track to a junction point within a feed passage formed by a first feed opening and a second feed opening which is in communication with the first feed opening; and

arranging the fastening element in a given orientation at the junction point such that the first end of the fastening element is a front end thereof when the fastening element is to be moved through the first feed opening and the second end of the fastening element is a front end thereof when the fastening element is to be moved through the second feed opening.

2. A method as set forth in claim 1 in which a plurality of fastening elements are transported to the junction point singly.

3. A method as set forth in claim 1 wherein the fastening element is a first fastening element, which further comprises the step of transporting a second fastening element to the junction point, after the first fastening element has been moved from the junction point.

4. A method as set forth in claim 1, wherein the fastening element is transported from the feed track to the junction point through a feed chamber.

5. A method as set forth in claim 4, which further comprises the step of moving the fastening element from the feed chamber over an inclined surface and into the junction point.

6. A method as set forth in claim 1 in which, depending on the desired and selected direction of transport of the fastening element from the junction point toward a downstream point, the first feed opening or the second feed opening can be supplied with a pressure medium, so that the fastening element is transported from the junction point toward the downstream point.

7. A method as set forth in claim 6, which further comprises the step of sealing the feed chamber from the feed passage at least during the application of the pressure medium in the feed passage.

8. A method as set forth in claim 1 in which the fastening element is moved from the feed track toward the junction point by a movable ram.

9. A method set forth in claim 8, which further comprises the step of:

moving the ram between two positions in a feed chamber where, in a first position of the ram, a receptor slot thereof is adjacent the feed track, and in a second position the ram seals any communication between the feed chamber and the feed passage.

10. A method for feeding a fastening element, which comprises the steps of:

positioning the fastening element in a receptor slot of a ram which is situated at a first location in a feed chamber;

moving the ram to locate the receptor slot at a second location in the feed chamber spaced from the first location; and

moving the fastening element from the receptor slot to deposit the fastening element at the second location.

11. The method as set forth in claim 10, which further comprises the step of:

moving the fastening element over a transition surface from the second location to a third location in a feed passage.

12. The method as set forth in claim 11, which further comprises the step of:

sealing the feed chamber from any communication with the feed passage.

13. The method as set forth in claim 12, which further comprises the step of:

applying a pressurized medium to the feed passage to move the fastening element within the feed passage toward a downstream point.

14. The method as set forth in claim 11, which further comprises the step of:

forming the transition surface as an inclined surface which extends downward from the second location and between the second location and the feed passage.

15. The method as set forth in claim 10, wherein the step of moving the fastening element from the receptor slot further comprises the steps of:

moving a portion of the fastening element into moving engagement with a camming wall; and

camming the fastening element from the receptor slot as the ram continues to be moved.

16. The method as set forth in claim 10, which further comprises:

moving the fastening element from the second location to a feed passage; and

moving the ram to a third position to seal the feed chamber from any communication with the feed passage.

17. The method as set forth in claim 10, which further comprises the step of:

providing a feed track at the first location adjacent the receptor slot for feeding the fastening element from the feed track to the receptor slot.

18. The method as set forth in claim 17, which further comprises the step of:

blocking the feed track as the ram is moved from the first location.

19. The method as set forth in claim 10, which further comprises the step of:

locating a surface of the ram within the feed passage to form a continuation of the feed passage.

20. A device for feeding a fastening element, formed with a first end and a second end, toward a downstream point, which comprises:

- a feed track;
- a first feed opening;
- a second feed opening in communication with the first feed opening;
- the first feed opening and the second feed opening forming a feed passage;
- a junction point located within the feed passage;
- each of the first and second feed openings extending toward a downstream point;
- means for transporting the fastening element from the feed track toward the junction point; and
- means for arranging the fastening element in a given orientation at the junction point such that the first end of the fastening element is a front end thereof when the fastening element is to be moved through the first feed opening and the second end of the fastening element is a front end thereof when the fastening element is to be moved through the second feed opening.

21. A device according to claim 20, which further comprises:

- a feed chamber which extends between the feed track and the junction point.

22. A device according to claim 21, which further comprises:

- a surface located between the feed chamber and the junction point and which is inclined downward from the feed chamber to the junction point.

23. A device according to claim 20, wherein the means for transporting comprises:

- a movable ram.

24. A device according to claim 23, which further comprises:
a receptor slot formed in the ram; and
means for moving the ram into two positions thereof;
wherein, in a first position, the receptor slot is positioned adjacent and aligned with the feed track for receipt of the fastening element therefrom; and in a second position, the ram blocks the feed track.

25. A device for feeding a fastening element and directing the fastening element toward a downstream point, which comprises:
a housing;
a feed chamber located within the housing;
a feed passage located in the housing and spaced from the feed chamber, and extending to a downstream point;
a ram mounted for movement within the feed chamber;
a receptor slot formed in the ram for receipt of the fastening element at a loading station;
means for moving the ram within the feed chamber from the loading station to an unloading station whereat the fastening element is discharged from the receptor slot; and
means for directing the discharged fastening element into a feed passage station within the feed passage.

26. The device as set forth in claim 25, which further comprises:
a first housing member having a closed channel;
a second housing member having a closed channel; and
the first housing member and the second housing member being assembled together, with the closed channels thereof being in interfacing arrangement to form the feed chamber.

27. The device as set forth in claim 25, which further comprises:

a feed track located at the loading station whereat the ram is positionable to position the receptor slot adjacent, and aligned with, the feed track for transfer of the fastening element from the feed track to the receptor slot.

28. The device as set forth in claim 25, wherein the means for moving the ram comprises:

an air cylinder;
a piston rod extendable from the air cylinder; and
a drive bar mounted on a free end of the piston rod and coupled to the ram.

29. The device as set forth in claim 25, which further comprises:

means for moving the ram from the unloading station to a sealing station in a direction away from the loading station; and
means formed on the ram for sealing the feed chamber from communication with feed passage when the ram is at the sealing station.

30. The device as set forth in claim 29, wherein the means for sealing comprises:

a ram surface formed on the ram;
a housing surface formed on the housing; and
the ram surface and the housing surface being aligned for interfacing engagement when the ram is moved to the sealing station.

31. The device as set forth in claim 25, which further comprises:

the feed passage being formed with a wall surface of a prescribed shape;

a gap formed in a portion of the wall surface of the feed passage;

a portion of the ram being formed with a surface of the prescribed shape; and

the surface of the portion of the ram being locatable within the gap of the wall surface of the feed passage when the ram is located at the sealing station.

32. The device as set forth in claim 25, which further comprises:

an open chamber formed in the housing adjacent the feed chamber;

the means for moving the ram including a drive bar; and

an opening formed between the open chamber and the feed chamber for extending the drive bar from the open chamber to the feed chamber.